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09/841,710	04/24/2001	Takeshi Ishizaki	36992.00077 (HAL 187)	6270

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30256	7590	08/23/2004	MAURO JR, THOMAS J

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DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _24 April 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _24 April 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _20010725, 20010925_.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are pending and are presented for examination. A formal action on the

merits of claims 1-20 follows.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1-3, 5-11, 14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Aziz et al. (U.S. 6,597,956) in view of Salkewicz (U.S. 6,609,153).

Regarding claim 1, Aziz teaches a system comprising:

A connection to a virtual private network **[Aziz -- Col. 5 lines 6-22 – Virtual Server**

Farm (VSF) is connected back to Intranet via a Virtual Private Network (VPN)];

At least one server **[Aziz -- Figures 1C and 2, Col. 2 lines 35-41 and Col. 6 lines 33-35**

– Computing gird contains a large number of CPU's, i.e. application servers or web

servers];

A virtual LAN switch, said virtual LAN switch providing selectable forwarding for

information to said at least one server **[Aziz -- Figure 2 and Col. 6 lines 47-58 – VLAN switch**

allows forwarding of information between a number of CPU's, i.e. servers];

At least one volume [Aziz -- Figures 1C and 2, Col. 2 lines 35-41 and Col. 6 lines 40-46 – Computing grid contains a number of disks, i.e. storage volumes];

An FC switch, wherein said FC switch provides selectable interconnection between said at least one server and said at least one volume [Aziz -- Figure 2 and Col. 6 lines 58-61 – Servers and disks are interconnected by using a switch, which can be a Fibre Channel (FC) switch], so that information received from a plurality of sources via said virtual private network is directed to a particular server for each of said sources by said virtual LAN switch, and wherein said information is then directed to a particular volume for each of said sources by said FC switch [Aziz -- Figure 2 and Col. 6 lines 21-61 – Information is routed through VPN which is then directed to a plurality of servers, i.e. CPU's, via a VLAN switch which then directs storage to a plurality of disks, i.e. volumes, via an FC switch].

Aziz fails to explicitly teach a router connected to a virtual private network, wherein said router maintains at least one virtual router for a client.

However, routers are common to all networks in operation especially when connecting multiple WAN's, thus it is obvious that Aziz requires the use of a router although one is not shown. Salkewicz, however, discloses a domain isolation system through the use of private virtual networks (VPNs) which employ a networking device, i.e. router, containing numerous virtual network machine routers (VNMRs) for routing the varying clients, i.e. subscribers [Salkewicz -- Figures 1B, 18 and 21, Col. 11 lines 20-45 and Col. 14 lines 44-67 – Col. 15 lines 1-12].

Both Aziz and Salkewicz are concerned with protecting and routing subscribers to various services/resources through a VPN connected to the Internet.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to incorporate the router containing a number of virtual routers (VRs) for clients, as taught

by Salkewicz into the invention of Aziz, in order to provide access to secure private networks,

i.e. corporations, etc., over the public Internet in addition to allowing users to have improved

ability to change network domains [**Salkewicz -- Col. 9 lines 39-41**].

Regarding claim 2, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 1 above, including further comprising a management system that

controls operation of said router [**Salkewicz -- Col. 4 lines 21-40, Col. 12 lines 4-11 and Col. 15**

lines 9-54 -- Databases associated with router controls access to resources and networks.

Subscriber management system runs software to control the operation of the routing based

upon the control information in the databases. This information is dynamic and can be

changed by administrative control].

Aziz teaches a hierarchical control process containing a master segment manager and slave

segment managers to control and manage the various computing, networking and storage

elements in the computing grid [**Aziz -- Col. 14 lines 9-14 and lines 21-25**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made

to incorporate the management system to control operation of the router and all its virtual

network machine routers, as taught by Salkewicz into the invention of Aziz as one of the slave

segment managers, in order to provide dynamic, rather than static, bindings [**Salkewicz -- Col.**

15 line 54] in addition to providing simplified and reduced cost administration of networks

[**Salkewicz -- Col. 12 lines 12-14**].

Regarding claim 3, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 2 above further comprising: a network interface module that receives

commands [Aziz -- **Figure 9 and Col. 14 lines 59-62 – Slave segment managers, one of which**

is the subscriber management system of Salkewicz, receives instructions] from an integrated

service management system [Aziz -- **Figure 9, Col. 14 lines 9-14, lines 21-25, lines 29-35 and**

lines 57-61 – Master segment manager of control plane, i.e. integrated service management

system, manages computing, networking and storage elements of grid by instructing slave

segment managers, i.e. subscriber (router) management system, to modify appropriate

resources and controls], a service order processing module that analyzes and executes the

commands [Aziz -- **Col. 23 lines 38-39 – Instructions are parsed and evaluated, and if**

appropriate, are queued for execution], updates a table of virtual private network information

[Salkewicz -- **Col. 3 lines 39-50, Col. 4 lines 21-40 and Col. 15 lines 9-12 and line 54 –**

Virtual network machine databases contain information to control operation of network

devices, i.e. routers. Thus, because bindings and database information is dynamic, each

change in configuration would require that the databases be updated to reflect the new

changes], and sends new configuration information to said router through a control module

[Aziz -- **Col. 8 lines 35-38 and Col. 10 lines 31-50 – Management interface provides**

instruction to control plane, i.e. control module, which sends configuration information to

devices, i.e. routers, switches, servers, disks, etc].

Regarding claim 5, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 1 above, further comprising a server management system that controls

operation of said virtual LAN switch [Aziz – Col. 10 lines 37-60, Col. 14 lines 9-14 and lines 21-25 -- Aziz teaches a hierarchical control process containing a master segment manager and slave segment managers to control and manage the various computing, networking, i.e. controlling and configuring VLAN ports, and storage elements in the computing grid].

Regarding claim 6, Aziz-Salkewicz teach the invention substantially as claimed, as aforementioned in claim 1 above, further comprising a storage management system that controls operation of said FC switch [Aziz -- Col. 10 lines 37-62, Col. 14 lines 9-14 and lines 21-25 -- Aziz teaches a hierarchical control process containing a master segment manager and slave segment managers to control and manage the various computing, networking, and storage elements, i.e. controlling and configuring SAN FC switch, in the computing grid].

Regarding claim 7, Aziz-Salkewicz teach the invention substantially as claimed, as aforementioned in claim 1 above, further comprising an integrated service management system that controls operations [Aziz -- Figure 9, Col. 14 lines 9-14, lines 21-25, lines 29-35 and lines 57-61 – Master segment manager of control plane, i.e. integrated service management system, manages computing, networking and storage elements of grid by instructing slave segment managers, i.e. subscriber (router) management system, to modify appropriate resources and controls].

Regarding claim 8, Aziz-Salkewicz teach the invention substantially as claimed, as aforementioned in claim 7 above, including wherein said integrated service management system

further comprises: a network interface module that receives requests to change configuration

[Aziz -- **Figure 9, Col. 10 lines 34-39, Col. 14 lines 59-62 and Col. 23 lines 16-39 –**

Organizational owner users, i.e. administrators, enters provisioning information, i.e.

change configuration, to master segment manager], a service order processing module that

analyzes and executes requests to change configuration received by said network interface

module [Aziz -- **Col. 23 lines 38-39 – Instructions are parsed and evaluated, and if**

appropriate, are queued for execution], updates related tables in service management database

[Salkewicz -- **Col. 3 lines 39-50, Col. 4 lines 21-40 and Col. 15 lines 13-54 - Network**

databases are used for storing access and configuration information for devices, which

obviously need to be updated as configurations change], and sends new configuration

information using said network interface module [Aziz -- **Col. 8 lines 35-38 and Col. 10 lines**

31-50 – Management interface provides instruction to control plane, i.e. control module,

which sends configuration information to devices, i.e. routers, switches, servers, disks, etc].

Regarding claim 9, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 8 above, further comprising an operator console application that sends a

request command to change service configuration to said integrated management system, i.e.

master segment manager [Aziz -- **Figure 9, Col. 10 lines 34-39, Col. 14 lines 59-62 and Col. 23**

lines 16-39 – Organizational owner users, i.e. administrators, enters provisioning

information, i.e. change configuration, to master segment manager via either an

application or web page GUI].

Regarding claim 10, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 8 above, further comprising a customer portal application that sends a

request command to change service configuration to said integrated management system, i.e.

master segment manager [**Aziz -- Figure 9, Col. 10 lines 34-39, Col. 14 lines 59-62 and Col. 23**

lines 16-39 – Customers can enters provisioning information, i.e. change configuration, to

master segment manager via a webpage console].

Regarding claim 11, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 8 above, including storing destination information for services in a table

[**Salkewicz -- Col. 3 lines 39-50, Col. 4 lines 21-40 and Col. 15 lines 1-54 – Network**

databases store information for allowing subscribers to gain access to various network

resources, i.e. servers, etc. Thus, it is obvious that destination information, i.e. IP

addresses, of those servers would obviously be stored in database, i.e. table].

Regarding claim 14, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 8 above, including a service table having a customer ID mapping access

to a particular VPN ID, server ID and volume/disk ID.

Aziz-Salkewicz teach that a subscriber ID, i.e. subscriber #1, subscriber #2, etc., are mapped to a

given virtual network machine router which then provides them access to allowed resources, i.e.

an ISP, corporate LAN, etc... [**Salkewicz -- Figure 21 and Col. 14 lines 44-67 – Col. 15 lines**

1-8].

In addition, this data is stored in a database, i.e. table, which is on the network device containing

the virtual network machine routers **[Salkewicz -- Figure 20 and Col. 15 lines 13-33]**.

While Aziz-Salkewicz do not explicitly teach mapping a VPN ID and a volume/disk ID to a

given customer ID, it would have been obvious to a person of ordinary skill in the art to

incorporate any number of devices/resources, such as VPN's, volumes/disks, etc, into a service

table for correlating these devices to a given customer to show which VPN ID and disk/volume

ID a given customer is assigned, just as the server was mapped.

Regarding claim 16, Aziz teaches the invention substantially as claimed, a method for

managing storage, comprising:

receiving a request to change a configuration of an integrated storage and networking

system **[Aziz -- Figure 9 and Col. 23 lines 26-38 – Users or customers input provisioning**

information for changing or customizing a configuration of the system];

analyzing said request to determine a new configuration **[Aziz -- Col. 23 lines 38-39 –**

Information inputted is parsed and evaluated, i.e. analyzed, to determine appropriateness

of change information]; and

sending new configuration information to at least one of a plurality of subsystem

managers **[Aziz -- Col. 8 lines 35-38, Col. 10 lines 31-50 and Col. 14 lines 57-62 – Master**

segment manager provides information to slave/farm segment managers which sends

instructions over the control plane, i.e. control module, thereby sending configuration

information to devices, i.e. routers, switches, servers, disks, etc].

Aziz fails to explicitly teach updating configuration tables to reflect new changes.

However, Aziz does teach execute the instructions **[Aziz -- Col. 23 lines 38-39]** and changes

configurations of the SAN switch controlling the disks, i.e. storage **[Aziz -- Col. 10 lines 60-62]**.

Salkewicz, however, teaches the use of network databases for storing access and configuration

information for devices **[Salkewicz -- Col. 3 lines 39-50, Col. 4 lines 21-40 and Col. 15 lines**

13-54].

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to incorporate the configuration databases for network devices, as taught by Salkewicz into

the invention of Aziz, in order to provide a common and widely used data structure for holding

configuration info for network storage control devices, i.e. SAN switch.

Regarding claim 17, Aziz teaches the invention substantially as claimed, a method for

managing a configuration for a virtual private network, comprising:

receiving, at a subsystem manager, a request to change to a new a configuration for a

virtual private network of an integrated storage and networking system **[Aziz -- Figure 9, Col. 5**

lines 6-22 and Col. 23 lines 26-38 – Users or customers input provisioning information for

changing or customizing a configuration of the system, i.e. the VPN]; and

analyzing said request to determine a new configuration for said virtual private network

of said integrated storage and networking system **[Aziz -- Col. 23 lines 38-39 – Information**

inputted is parsed and evaluated, i.e. analyzed, to determine appropriateness of change

information for the VLAN system, i.e. VPN]; and

sending commands to implement new configurations **[Aziz -- Col. 8 lines 35-38, Col. 10**

lines 31-50 and Col. 14 lines 57-62 – Master segment manager provides information to

slave/farm segment managers which sends instructions over the control plane, i.e. control module, thereby sending configuration information to devices, i.e. routers, switches, servers, disks, etc].

Aziz fails to explicitly teach updating configuration tables to reflect said new configurations for the VPN.

However, Aziz does teach executing the instructions to implement the configuration changes **[Aziz -- Col. 23 lines 38-39].**

Salkewicz, however, discloses a domain isolation system through the use of private virtual networks (VPNs) which employ a networking device, i.e. router, containing numerous virtual network machine routers (VNMRs) for routing the varying clients, i.e. subscribers **[Salkewicz -- Figures 1B, 18 and 21, Col. 11 lines 20-45 and Col. 14 lines 44-67 – Col. 15 lines 1-12].** In addition, Salkewicz teaches updating configuration tables for VPN information for virtual network machine routers **[Salkewicz -- Col. 3 lines 39-50, Col. 4 lines 21-40 and Col. 15 lines 9-12 and line 54 – Virtual network machine databases contain information to control operation of network devices, i.e. routers. Thus, because bindings and database information is dynamic, each change in configuration would require that the databases be updated to reflect the new changes].**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the virtual network machine routers along with the configuration tables for storing virtual network machine router information, as taught by Salkewicz into the invention of Aziz, in order to provide a common and widely used data structure for holding

configuration info necessary for the operation of a VPN and virtual network machine routers

which in turn allows proper access and security for the VPN system.

Regarding claim 18, Aziz teaches the invention substantially as claimed, a method for

managing a configuration for at least one of a plurality of servers, comprising:

receiving, at a subsystem manager, a request to change to a new a configuration for at

least one of a plurality of servers in an integrated storage and networking system **[Aziz --**

Figures 1C, 2 and 9, Col. 6 lines 28-37 and Col. 23 lines 26-38 – Users or customers input

provisioning information for changing or customizing a configuration of the system, i.e. a

server]; and

analyzing said request to determine a new configuration for said at least one of a plurality

of server in an integrated storage and networking system **[Aziz -- Col. 23 lines 38-39 –**

Information inputted is parsed and evaluated, i.e. analyzed, to determine appropriateness

of change information for the system, i.e. server configuration changes]; and

sending commands to implement new configurations **[Aziz -- Col. 8 lines 35-38, Col. 10**

lines 31-50 and Col. 14 lines 57-62 – Master segment manager provides information to

slave/farm segment managers which sends instructions over the control plane, i.e. control

module, thereby sending configuration information to devices, i.e. routers, switches,

servers, disks, etc].

Aziz fails to explicitly teach updating configuration tables to reflect new changes.

However, Aziz does teach execute the instructions **[Aziz -- Col. 23 lines 38-39]** and changes

configurations of the VLAN switch controlling the disks, i.e. storage **[Aziz -- Col. 10 lines 51-**

60].

Salkewicz, however, teaches the use of network databases for storing access and configuration information for devices **[Salkewicz -- Col. 3 lines 39-50, Col. 4 lines 21-40 and Col. 15 lines 13-54].**

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the configuration databases for network devices, as taught by Salkewicz into the invention of Aziz, in order to provide a common and widely used data structure for holding configuration info for network storage control devices, i.e. VLAN switch.

Regarding claim 19, Aziz teaches the invention substantially as claimed, a method for managing a configuration for at least one of a plurality of storage devices, comprising:

receiving, at a subsystem manager, a request to change to a new a configuration for at least one of a plurality of storage devices in an integrated storage and networking system **[Aziz -- Figures 1C, 2 and 9, Col. 6 lines 40-46 and Col. 23 lines 26-38 – Users or customers input provisioning information for changing or customizing a configuration of the system, i.e. disks]**; and

analyzing said request to determine a new configuration for said at least one of a plurality of storage devices in an integrated storage and networking system **[Aziz -- Col. 23 lines 38-39 – Information inputted is parsed and evaluated, i.e. analyzed, to determine appropriateness of change information for the system, i.e. server configuration changes]**; and

sending commands to implement new configurations **[Aziz -- Col. 8 lines 35-38, Col. 10 lines 31-50 and lines 60-62 and Col. 14 lines 57-62 – Master segment manager provides**

information to slave/farm segment managers which sends instructions over the control plane, i.e. control module, thereby sending configuration information to devices, i.e. routers, switches, servers, disks, etc].

Aziz fails to explicitly teach updating configuration tables to reflect new changes. However, Aziz does teach execute the instructions **[Aziz -- Col. 23 lines 38-39]** and changes configurations of the FC switch controlling the disks, i.e. storage **[Aziz -- Col. 10 lines 60-62].** Salkewicz, however, teaches the use of network databases for storing access and configuration information for devices **[Salkewicz -- Col. 3 lines 39-50, Col. 4 lines 21-40 and Col. 15 lines 13-54].**

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the configuration databases for network devices, as taught by Salkewicz into the invention of Aziz, in order to provide a common and widely used data structure for holding configuration info for network storage control devices, i.e. FC switch.

Regarding claim 20, this is an apparatus claim corresponding to the system claimed in claim 1 above. It has similar limitations; therefore, claim 20 is rejected under the same rationale.

4.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aziz et al. (U.S.

6,597,956) and Salkewicz (U.S. 6,609,153), as applied to claim 2 above, in view of Akahane et

al. (U.S. 2001/0050914) and Poisson et al. (U.S. 6,765,591).

        Regarding claim 4, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 2 above, including a database containing records for controlling access

to various services based upon identification information, which is used by the virtual network

machine router **[Salkewicz -- Col. 15 lines 9-54]**.

Aziz-Salkewicz fail to teach a VPN table having the fields of VPN ID, IP address of the

endpoints, protocol used, whether access to public Internet is permitted and a VLAN ID.

Akahane, however, discloses a VPN table used on an edge router containing information

specifying VPN ID, protocol, VLAN and destination IP **[Akahane -- Figures 6 and 8, page 5**

paragraph [0059], page 5-6 paragraphs [0066-0068] and paragraph [0074]].

Furthermore, Poisson teaches a system for managing a VPN in which configuration information

specified for a router includes an indication whether access to public Internet is permitted

[Poisson -- Figure 18 and Col. 7 lines 26-35 – Security configurations are displayed showing

the settings for what communication types, i.e. HTTP or Internet, are allowed or enabled].

Salkewicz teaches that layer 2 and 3 addressing is used in the database for controlling access to

the virtual network machine router.

Therefore, it would have been obvious to a person of ordinary skill in the art to include the

source IP address of one endpoint into the VPN table in order to determine the access levels and

resources a certain subscriber has access to from a given endpoint.

It would have been obvious to one of ordinary skill in the art at the time the invention was made

to incorporate the VPN table containing VPN ID, protocol, VLAN and destination IP, as taught

by Akahane along with the public Internet permission configuration information, as taught by

Poisson into the invention of Aziz-Salkewicz, in order to provide a well known data structure to

control access and regulate the resources that subscribers have access to.

5.   Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aziz et al. (U.S.

6,597,956) and Salkewicz (U.S. 6,609,153), as applied to claim 8 above, in view of Kim et al.

(US 2002/0069272).

Regarding claim 12, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 8 above, but fail to explicitly teach a server table having a server ID, an

address, a VLAN identification, an application identification, an operating system identification

and CPU information.

Kim, however, discloses a system for managing server configurations having a server table

outlining such information as server ID, an address, i.e. IP, an operating system ID and a CPU

information **[Kim -- Page 1 paragraph [0011] and page 5 paragraphs [0051-0053] and

paragraph [0055]]**.

Aziz discloses a virtual server farm (VSF) system which consists of multiple VLAN having ID's

such as VLAN1 and VLAN2 along with multiple types of CPU servers, including web servers,

application servers and database servers **[Aziz -- Col. 2 lines 35-41 and Col. 7 lines 9-17]**.

While Kim fails to explicitly teach fields in the table for VLAN ID and application ID, it would

have been obvious to a person of ordinary skill in the art to incorporate such fields as VLAN ID

and application ID, i.e. web server, application server or database server, in order to further

improve the speed and efficiency of matching server configurations by providing more specific

information regarding each server type.

It would have been obvious to a person of ordinary skill in the art at the time the invention was

made to incorporate the server configuration table, as taught by Kim into the invention of Aziz-

Salkewicz, in order to provide a well-know and widely used data structure for storing

information about server configuration which would allow one to ascertain resources of servers

for proper allocation and deallocation of resources as necessary and desired.

6.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aziz et al. (U.S.

6,597,956) and Salkewicz (U.S. 6,609,153), as applied to claim 8 above, in view of Blumenau et

al. (U.S. 6,295,575).

Regarding claim 13, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 8 above, but fails to explicitly teach a storage table having a volume ID,

a port ID, a server ID, a capacity ID and access information.

Blumenau, however, discloses a system for configuring a data storage unit consisting of a table

having information of volume ID, port information, host, i.e. server, ID and access flag

information **[Blumenau -- Figures 5 and 8 and Col. 11 lines 51-67 – Col. 12 lines 1-13]**.

While Blumenau fails to explicitly teach a field for capacity, it is well known and obvious that a

major property of a disk or volume is capacity and therefore, it would have been obvious to a

person of ordinary skill in the art to incorporate such a capacity field, in order to allow a user to

easily ascertain the size or capacity of a disk/volume.

It would have been obvious to a person of ordinary skill in the art at the time the invention was

made to incorporate the storage table containing volume ID, port information, host ID, access

information and capacity information, as taught by Blumenau into the invention of Aziz-

Salkewicz, in order to provide a well known data structure for holding configuration information

associated with the disks.

7.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aziz et al. (U.S.

6,597,956) and Salkewicz (U.S. 6,609,153), as applied to claim 8 above, in view of Yamamoto

(US 2003/0097370).

        Regarding claim 15, Aziz-Salkewicz teach the invention substantially as claimed, as

aforementioned in claim 8 above, including a table having a customer ID and mappings to

various services the subscriber has access to **[Salkewicz -- Col. 3 lines 39-50, Col. 4 lines 21-40**

and Col. 15 lines 13-54].

Aziz-Salkewicz, however, fail to teach having the status of a server or other resource.

Yamamoto, however, discloses a status mapping table which correlates a server ID along with

failure and active status information **[Yamamoto -- Figure 2-4 and page 4 paragraphs [0090-**

0094]].

While Yamamoto does not explicitly teach storing the status of a VPN and a volume/disk, it would have been obvious to a person of ordinary skill in the art to incorporate any number of devices/resources, such as VPN's, volumes/disks, etc, into a status table for storing the status of these and other devices, just as the status of a server can be stored.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the status information of servers, as taught by Yamamoto into the invention of Aziz-Salkewicz, in order to provide a common and widely used data structure for holding status information of resources a particular customer has access to which can be used to determine availability of a device or resource.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Liu (U.S. 6,079,020) discloses a method for managing a virtual private network over a public data network.

- Mayer (US 2002/0019864) discloses a system for hierarchically managing configuration changes.

- Tindal et al. (US 2002/0069274) discloses a method for configuring, monitoring and managing network devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mauro Jr. whose telephone number is 703-605-1234. The examiner can normally be reached on M-F 8:00a.m. - 4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 703-308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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